Amendments to Claims:

This listing of claims will replace all prior versions and listings of the claims in the application:

Listing of Claims:

1. (currently amended) An apparatus for ~~controlling the operation of the data channel~~use in a mobile communication system that simultaneously transmits a control message over ~~the data~~a control channel and ~~the~~ data over ~~the~~ a data channel, wherein the apparatus ~~and~~ supports hybrid automatic repeat request (HARQ), the apparatus comprising:

a physical layer for receiving the control message and the~~traffic~~ data ~~and the control message~~ from the ~~data~~ control channel and the ~~date~~data channel ~~seperately~~respectively and for decoding the received ~~traffic data and~~ control message and data;

a physical layer's HARQ controller for processing~~calculating~~ a result of the decoding~~the~~ of at least one of the received control message and data~~decoded results received from the physical layer~~ and for controlling the physical layer according to a ~~the calculating~~result of the processing.

2. (currently amended) The apparatus of claim 1, wherein the physical layer's HARQ controller comprises:

~~An~~at least one HARQ state machine for controlling a state transition among a plurality of states, wherein the plurality of states includes ~~of~~ an initial state for initializing parameters while waiting for a the control message to be received over the ~~packet data~~control channel ~~received from the physical layer~~, a control message decoding state for decoding the control message, a control state for calculating a result of the control message decoding~~result~~, a demodulation state for demodulating ~~packet data on~~the ~~packet~~received data ~~channel~~, a data decoding state for turbo decoding the demodulated ~~packet~~data, and a response state for transmitting a response based on a~~the~~ result of the turbo-decoding~~result~~; and

a state function section for controlling the state transition of the at least one HARQ state machine depending on a the result of the processing~~result of the physical layer~~.

3. (currently amended) The apparatus of claim 1, further comprising a data path processor for controlling a processing path of data received over the ~~packet~~ data channel.

4. (currently amended) The apparatus of claim 1, further comprising an output buffer controller for storing data obtained by demodulating and decoding data received over the ~~packet~~ data channel and outputting the stored data to the HARQ controller.

5. (currently amended) The apparatus of claim 2, wherein the <u>at least one</u> HARQ state machine <u>comprises two HARQ state machines</u>~~is dualized~~.

6. (currently amended) The apparatus of claim 5, wherein ~~if a~~ <u>an amount of delay</u> <u>for the</u> response ~~delay time~~ comprises 2 slots, <u>wherein</u> each of the ~~dualized~~ <u>two</u> HARQ state machines alternately controls the state transition for 2 slots for the data received over the ~~packet~~ data channel.

7. (currently amended) The apparatus of claim 6, wherein ~~when transmitting a~~ ~~signal for~~ <u>when</u> decoding ~~of~~ the ~~packet~~ data ~~into~~ the physical layer, the <u>two</u> HARQ state machine<u>s</u> controls <u>a</u> transition to a waiting state until ~~an~~ <u>previous decoding</u> operation of the decoder ~~is~~ <u>has</u> ended.

8. (currently amended) The apparatus of claim 7, wherein the state function section comprises:

first state processors for performing control operations of the ~~associated dualized~~ <u>two</u> HARQ state machines in the initial state;

a second state processor for performing control operations of the HARQ state machines in the control state;

a third state processor for performing control operations of the HARQ state machines in the demodulation state;

a fourth state processor for performing control operations of the HARQ state machines in the waiting state;

a fifth state processor for performing control operations of the HARQ state machines in the decoding state; and

sixths state processors for performing control operations of the associated two HARQ state machines in the response state.

9. (original)   The apparatus of claim 1, wherein the physical layer comprises one data channel turbo decoder.

10. (currently amended)   The apparatus of claim 1, wherein the data channel is decoded by ~~decoder is~~ a turbo decoder.

11. (currently amended)   ~~An~~ The ~~Apparatus~~ apparatus of claim 1, wherein the physical layer's HARQ controller requests a retransmission of the ~~traffic~~ data ~~to the physical layer of~~ from the mobile communication system when results of the decoding of the data indicate that the decoding was unsuccessful~~the result of the decoded data is bad~~.

12. (currently amended)   ~~An~~The apparatus of claim 1, wherein the physical layer's HARQ controller transmits the decoded data to an upper layer when results of the decoding of the data indicate that the decoding was successful~~the result of the decoded data is good~~.

13. (currently amended)   ~~An~~The apparatus of claim 1, wherein the physical layer comprises a control channel decoder for decoding the received control ~~data~~messages, a demodulator for demodulating the received data, and a data decoder for decoding the demodulated data.

14. (currently amended)   ~~An~~The apparatus of claim 13, wherein the physical layer's HARQ controller determines whether to demodulate the data depending on the decoded control ~~data~~message and outputs the decoded control ~~data~~message to the demodulator and the data decoder when the HARQ controller determines to demodulate the data.

15. (currently amended)   ~~An~~The apparatus of claim 1, wherein the physical layer's HARQ controller determines whether to demodulate the data depending on the ~~calculated~~ processed result and outputs the result of the decoded control ~~data~~ message to the physical layer when the HARQ controller determines to demodulate the data.

16. (currently amended)   ~~An~~The apparatus of claim 1, wherein the physical layer's HARQ controller determines whether to demodulate and decode the received data depending on ~~a~~the result of the decoding ~~result~~ of the control message, outputs the decoded control message to the demodulator and the decoder during demodulation, ~~and~~ decoding ~~of~~ the received data, and ~~controlling~~s the output of a response signal according to the result of the~~a~~ decoding ~~result~~ of the data.

17. (currently amended)   ~~An~~ The apparatus of claim 1, wherein the physical layer's HARQ controller delivers the decoded data to the upper layer.

18. (currently amended)   ~~An apparatus of~~A HARQ (Hybrid Automatic Repeat Request) controller for retransmitting data in a mobile station of a mobile communication system, the HARQ controller comprising:

~~an~~ at least one HARQ state machine for receiving state information from a physical layer, ~~and~~ for determining if a transition to~~result of~~ a next state should occur and for providing a result of the determination to a state function section; and

a state function section for indicating an operation of the physical layer according to the result of the determination by~~determined result from~~ the HARQ state machine.

19. (currently amended)   The apparatus of claim 18, wherein the mobile station receives a data channel and a control channel, wherein the control channel is used for transmitting control information for decoding the data channel.

20. (currently amended)   The apparatus of claim 19, wherein the mobile station includes a control channel decoder for decoding the data channel, a data channel demodulator for demodulating~~ion~~ the data, and a data channel decoder for decoding the demodulated data.

21. (currently amended)   The apparatus of claim ~~19~~20, wherein the state function section ~~commands an operation of~~controls any one of the control channel decoder, the data channel demodulator and the data channel decoder~~, all of which are related to transition decision~~.